

## EXPERT DRIVING SAFETY MEASURE

Hints on How Autoist May Attain Perfection and Avoid Accidents.

Almost any one may become an expert driver, but very few do mainly because they do not appreciate the necessity for it. Most men are indifferent drivers; they operate their cars in a slipshod, half-hearted manner, sometimes because they believe they cannot do better, but more often because they see no advantage in improving.

Perfection in driving is essential to the man who desires maximum comfort, economy and safety. Before taking the car out of the garage an examination should be made to determine that everything is in readiness. See that there is sufficient gasoline, oil and water and that the tires are properly inflated. Take nothing for granted; remember that the habit of guessing that everything is all right has no place when it comes to caring for and operating an automobile.

Even if the radiator were just filled a day or so ago, look at the water level anyhow, as it is possible that some of the water has unexpectedly boiled away or that there has been a small leak—hardly enough to be noticed, but sufficient to half empty the radiator in the course of several hours. This is common.

Be sure that all three are fully inflated; actual observation of cars on the road shows that not one out of ten has enough air, and lack of air means shortened tire life and frequent blow-outs.

Raise the hood and glance over the connections. It is easier to tighten a loose wire than to stop on the road and locate a miss. Also examine the fan belt occasionally to see that it is tight. Give all grease cups a turn or so and squirt a little oil into the various oil holes; especially do not neglect to lubricate the rockers if the motor is a valve-in-head type.

Throw on the switch and operate the starting pedal, but first close the shutter on the carburetor intake if there is one. If the motor does not start immediately, do not waste the battery current by continued cranking, but throw off the switch and look for trouble. In cold weather it may be necessary to "tick" the carburetor or even to prime the cylinders with raw gasoline before the motor will start readily, but this is better than wearing the battery out by asking it to crank the engine for an indefinite period. If the cranking is done on the magneto the spark should be advanced nearly all the way.

Push the clutch out all the way and after waiting an instant engage gear. The delay is to allow the countershaft to drop enough in speed so that the engagement may be made noiselessly. Sometimes it happens that the gears grind; this is due to the fact that the teeth of one gear are not in alignment with the gear which is to slide into it. In this case the clutch must be let back in for an instant—just long enough to start the shaft rotating again, and the probability is that the second time the engagement can be made without difficulty.

On level ground low gear is merely to get the car rolling, so that the change to second may be made at any speed from about two miles per hour up.

## GREASE CUPS NOT TO WORRY FUTURE AUTOIST

Motor car users in the future will not have to worry whether or not the grease cups are filled and turned up, if development during 1916 is followed up. For instance, in the Marmon 34 there are only four grease cups and these are on the steering connections. There are cars which have as many as fifty or sixty grease cups with instructions that each should be turned up once every week or ten days. These are the ordinary lubricating minor parts such as spring bolts, shafts, brake operating rods, etc.

In the Marmon 34, oilless bearings have taken the place of grease cups. The bearing consists of a couple of steel tubes and asbestos and graphite fabric in between the two. It works out that the wear is extremely slow and even when wear does come there is no rattle. The makers claim that these bearings will give as much service as the ordinary bearings used for these parts for which lubrication is necessary.

A young woman in Effingham, Kans., has bet \$5 that she will get married this year, and she put up the money.

## Men Busy at Work Completing Washington-Richmond Road

Crew of Seventy-five Employed Mending Break in Highway Near Pohick Church—Motorists and Business Men of Capital Make Good Start Raising Money for Improvement.

From the headquarters of the American Automobile Association District of Columbia Club comes the cheering news for Washington motorists and motorists that construction work on one of the uncompleted sections of the Washington-Richmond highway has commenced.

Last Wednesday saw a crew of seventy-five men and the necessary road machinery put to work between Pohick Church and the Lorton railway station, one of the most vicious of the breaks in the main highway, and the nearest to Washington.

With the completion of this stretch there will be opened a new route out of Washington giving motorists a sixty-mile round trip into a section replete with early colonial history, and a big step will have been taken in the work of connecting the National Capital and the Virginia metropolis with a fine highway.

The Pohick Church-Lorton station stretch has long been one of the most difficult and dangerous which motor tourists have had to contend. It has a steep hill and the roadway is only the width of a car. From the high bank on the side all the water drains into the so-called roadway, keeping it wet and full of bog holes.

Just beyond this is a long low stretch, below the level of the surrounding fields, of heavy clay that remains under water long after the fields on each side have dried out, making it difficult to negotiate. There are other patches along the way that give poor going but only in extremely wet weather.

To Be Ready in Month.

The work now in progress will do away with the heavy grade of the hill and fill in the long low bottom at its foot.

Owing to the large gang of workmen it is expected that the entire job will be completed in about thirty days, giving a roadway fourteen feet wide with a twelve-inch gravel top that will be thoroughly packed under a ten-ton steam roller.

Under the auspices of the District's motor club, the fund being raised in this city as Washington's quota of a general fund for the completion of the Washington-Richmond highway is making rapid strides forward. Letters are being sent out daily from club headquarters seeking contributions to the fund from those who would benefit by the road's completion, and each day's mail brings a generous quantity of favorable replies.

Washington merchants are asked to contribute \$5 each and motorists are solicited for \$2 each. The former are supplied with statistics compiled by the touring bureau of the American Automobile Association showing wherein commercial "Washington" would be annually enriched \$400,000 through the construction of a highway between the two capitals. Motorists are asked if they would be interested in spending \$2 for a new touring ground, covering approximately 500 miles, and the large number of \$2 checks received indicate that this class of citizens are keenly interested.

Practically all of the other cities along the route have already raised their share of the general fund needed to put the highway in first-class condition.

Richmond, which gave \$50,000 to the original project for a highway between the two capitals, has raised an additional \$5,000 to be applied to the breaks in the main highway. Fredericksburg and Alexandria are meeting with success in their efforts to raise another \$5,000.

Many Contributions Received.

Washington is asked for \$4,870 and while the local fund was started only a few days ago, approximately \$700 has been subscribed.

Subscriptions amounting to \$47,17 were acknowledged in last Sunday's issue of this paper. Since then \$22 has been received from the following individuals and business institutions: (This list does not include any subscriptions sent in since Wednesday, June 21.)

Hugh Reilly, White House Lunch, Astor Lunch, Gude Bros. Company, Barber & Ross, Joseph Strassburger Company, Family Shoe Store, National Electrical Supply Company, Hausler & Co., F. P. May Hardware Company, Washington Storage Company, R. Harris & Co., Seaton Garage and Supply House, H. B. Hatchett, Mount Rainier Times, Buck Motor Company, W. T. & F. B. Weaver, S. Kann, Sons & Co., Bastian Bros. Company, Browning & Middleton, Inc., Beren's Cafe, Hoover & Denham, F. J.

Heiberger & Son, Ralph L. Galt, Harper-Overland Company, James F. Moosman, Henry T. Gover, Gilbert H. Grosvenor, H. L. Sheldrake, Edward N. Rees, H. F. Colman, John B. Geier, W. S. Hoge & Bros., Inc., Mrs. George L. Bradley, John Lewis Smith, Commercial Auto and Supply Company, W. C. Long, R. E. Robertson, Dr. R. C. Malcolm, Joseph S. Beall, Mrs. Rose C. Fairbanks, Real Estate Investment Company, Charles W. Richardson, the Maurice Joyce Engraving Company, Marvin Wesley, H. Bradley Davidson, Charles Wood, Edgar M. Kitchin, John H. Carter, William R. Hodges, Louis Hartig, Wm. E. Luckett, George D. Horning, Phillip M. Riley, K. L. Simpson, Jacob Lapidus, C. A. Roussos, Mrs. Nettie Sims, Mrs. L. Minor Burtt, Dr. J. W. Burke, Dr. W. B. Mason, P. D. McKenney, L. D. Underwood, George H. Dunster, F. E. Cunningham, H. A. Miller, Watson E. Coleman, LeRoy Goff, E. H. Neumeier, Jr., William B. Creevy, W. S. Smith, Jacob Jacobson, Richard Crane and Dr. Charles R. Collins. The smallness of the total sum received as compared with the large number of subscribers, is due to the fact that only a small contribution is sought from each individual or firm. This because club officials believe that if every Washingtonian who will derive pleasure or profit from the road after its completion would contribute to its construction, less than 50 cents would be needed from each subscriber. Two Washington business men, W. C. Long and Byron Adams, each gave \$10.

In an appeal to the merchants and motorists of Washington, the club's fund committee, composed of Dr. C. Hart Merriam, J. Harry Cunningham and F. S. Standeish, asks everyone who should subscribe, or would subscribe, if approached, not to wait until a letter of solicitation reaches them or they are approached personally, but, upon being apprised of the move from any source, if they feel their duty to contribute, to send their checks without delay to the committee in the care of the A. A. A. District of Columbia Club, Riggs Building.

## DETROIT ELECTRIC HAS ENVIABLE REPUTATION

William Emerson, of Emerson & Orme, Tells of Machine's Popularity.

"In every enterprise there is one leader who stands out head and shoulders above the field," said William Emerson, of Emerson & Orme, distributors for Detroit Electric. "In the grocery business in any town, there is one firm that is considered 'best.' Others may be excellent, but this one tops them because of service quality or the prestige of years."

The same is true in the manufacturing business. In the electric motor car field, Detroit Electric stands out above all the rest. More than one-half of the electric cars manufactured today are Detroit Electric. The Anderson Electric Car Company in ten years has become the undisputed leader of a field of manufacturing which has been entered by no less than fifty different companies.

"To appreciate the reasons for this, one ought to see Detroit Electric built. It can be summed up, however, in a few words. The Anderson Electric Car Company set out to make the finest electric car that could be built, regardless of the cost. Then they set a price on it that was compatible with the quality. They offered it as cheaply as they could without reducing quality."

"This is a different attitude than is made by many other manufacturers. It is a common thing in manufacturing to look over the sales field and then pick out the portion that is underdeveloped as a target for a business. The Anderson Company has never tried that system."

Lower electric cars have come in the market and gone out again. Attempts have been made to cut prices and these have been failures because quality has been sacrificed. Meanwhile the Detroit Electric has gone forward, building upon the foundation of super-service and excellence. It has been a leader always and is now recognized universally."

## CHEER UP, "GAS" IS GOING DOWN!

Manager of Haynes Sees Benefits that Will Follow Drop in Price.

"With the price of gasoline stationary, and indications pointing to a reduction in the retail market, we can already count a number of beneficial effects that the past winter's high fuel prices have had on motor car design and manufacture," said A. G. Seiberling, general manager of the Haynes Automobile Company.

"Since gasoline soared early last winter, there has been an insistent demand for the economical car, and the makers of medium-priced automobiles have been shaping their motor design, not solely toward the production of power, but toward power coupled with efficiency."

"Working with the motor car makers are the carburetor manufacturers, whose efforts to obtain easily regulated power from the lower grades of gasoline, have met with great success. Furthermore, the groundwork has been laid for the improvement of motor fuel. The precarious condition of the gasoline supply has induced chemists to give their attention to the development of a synthetic or substitute for this fuel. Already the amount of gasoline that can be extracted from a given amount of crude oil has increased several fold, and experts believe the end has not been reached."

Give labor cost of more than \$30,000,000 worth of electrical supplies manufactured in the State in 1912 as 38 per cent of the total value. Next to mining and preparation of coal, this is the largest labor cost in percentage of all industries in the State of Pennsylvania.

## MOTOR TRUCKS LENGTHEN DAY

Make It Possible for Business Men to Perform Work in Fewer Hours.

Motor trucks have solved that "extra hour of daylight" discussion, as far as business is concerned, in the opinion of W. O. Duntley, pioneer builder of trucks. Compared with the horse-drawn method, the motor truck adds an hour to each end of the day, he says, with the result that "motorize" has become the transportation watchword and the motor truck an industrial necessity.

Mr. Duntley speaks with a definite knowledge of conditions, for he is president of the Chicago Pneumatic Tool Company, manufacturers of Little Giant trucks.

"Heretofore, interest has been concentrated in the pleasure-car side of the automobile business," says Mr. Duntley, "but now business concerns, large and small, are regarding the automobile truck as the vital part of their life. Besides, men have been roused through this remarkable interest in business efficiency, and have come to regard the motor truck as a big money-saving factor in their welfare—as a labor-saving device keeping the efficiency pace."

"Business men have speeded up efficiency in their factories and in their selling departments, but they have overlooked the other factor which is so essential to the conservation and expansion of both manufacturing and selling the finished product."

"During the past twenty-five years the Chicago Pneumatic Tool Company has been devoting the concentrated brain power of the country's greatest inventors and engineers in the development and manufacture of all manner of labor-saving devices—tools for

the speeding up of all manner of work. "The Chicago Pneumatic Tool Company was a logical organization to undertake the manufacture of a satisfactory motor truck because of the inventive ability of its engineers, because of the precise training of its mechanics, because of its ability to produce for its countless customers what was to be the greatest labor and time saver of all—the motor truck."

"During the past two years the Little Giant truck has been perfected to a point where it is now entrenched in a position of strength, in line with the best production of the Chicago Pneumatic Tool Company."

"Efficiency engineers and systematizers universally have given the motor truck the position to which it is entitled as a dividend payer, lowering, as it does, the cost of haulage, widening the range of operations, placing at the owner's disposal a twenty-four-hour, 365-day service under any and all weather conditions, and giving at minimum cost the power to equalize the speeding up throughout other departments, and—one of the most important considerations—satisfy the demands of customers for greater speed all along the line."

DIXON GRAPHITE AIDS RACERS.

The letter "D" seems to have the call nowadays. D'Alena, in a Duesenberg, carried off the second prize in the 300-mile International Sweepstakes, Gasoline Derby, held May 30, over the Indianapolis Motor Speedway. Deigne, in a Delage, carried off second honors at the big Sheepscod Bay motor races held May 13.

Dixon's graphite automobile lubricants are synonymous with dependability, as practically all the winners in the big racing events held during the past few years have driven cars that were Dixon-lubricated throughout. This series of remarkable performances is opening the eyes of those drivers who have not yet become "Dixonites" to such an extent that the percentage of racing-drivers who do not use Dixon's is rapidly becoming as small as the percentage of "non-Dixonized" race winners.

## DRIVES CAR ON HIGH SLOWER THAN A WALK

New Mitchell Model Subjected to Novel Demonstration by Californian.

W. H. Cahall, of Pasadena, Cal., recently demonstrated the flexibility of the new Mitchell model in a novel manner when he took his prospect out in a seven-passenger stock car and showed him the car could be driven on high slower than a man could walk on his hands beside the machine.

The prospect was skeptical, so a thirty-foot course was laid out and Earl Morris, a well-known coast athlete, walked the thirty feet in eight seconds. The Mitchell car traveling on high gear made the same thirty feet in twelve seconds. This means that the car was traveling on high speed at the rate of a mile an hour or less, whereas Mr. Morris went on his hands at the rate of a mile and a half an hour.

The car was being demonstrated to John Williams, manager of the Standard Oil Company. He succeeded in getting the car to go so slow on high speed that the speedometer failed to register. Mr. Morris, who was with Mr. Williams, was astonished and bet the car could beat the car throttled down on high speed while walking on his hands. Mr. Cahall didn't doubt this because he well knew what he could do with the Mitchell and that if Mr. Morris could keep his feet in the air while traveling forward on his hands he could beat the machine.

It struck Mr. Cahall an interesting test, however, so a course was measured off and with Walter White keeping time the race started and Mr. Morris walking on his hands outdistanced the car traveling on high gear from start to finish.

A party of four persons in an automobile was recently carried through the air 25 feet above the surface by means of an aerial cableway over the Elephant Butte Dam.

257 Cars in One  
26 Extra Features

**Mitchell**

Mid-Year  
Model

\$1325  
F. o. b. Racine

## "My Work is Done"

The Mid-Year Mitchell, and the plant that builds it, embody in full my ideas of efficiency. The car is my 17th Model. I have spent 13 years on the factory. I submit the result to all men as marking the best that lies within me.—John W. Bate

Every man, in any line of business, should study this Mid-Year Mitchell. It matters not what car you own, or what car you favor. Or if you want no car at all.

The New Mitchell, in a thousand details, typifies efficiency. It is the product of a model efficiency plant. It is the creation of a genius in efficiency. Every man can gain some inspiration from it.

### A Car to Rule

John W. Bate, the efficiency engineer, came here to build the master car. And to found a plant to build that car at the lowest cost.

It has taken him long. The industry was new. The very machinery had to be invented. It took ten years to evolve the Light Six type, which seems finality.

But the results you see in this Mid-Year Mitchell will win your deep respect.

### Big Safety Factors Lifetime Service

Mr. Bate's great aim was to build a long-lived car. And to build a reliable car, practically trouble-proof.

He has dealt with part by part. He has almost wiped out castings. In this New Mitchell, 440 parts are either drop forged or stamped from toughened steel.

He has used a wealth of Chrome-Vanadium. He has made parts over-size. His margins of safety are at least 50 per cent. In the car itself, Mr. Bate has made more than 700 improvements.

Six of his Mitchells have averaged 164,372 miles each—over 30 years of ordinary service. And they are still in active use.

### Cost Reduced 50%

Despite his high standards, he has in six years reduced Mitchell costs 50 per cent.

He has done this by building a model plant. By equipping that plant with 2092 up-to-date machines. And by training our army of workers.

Probably no other plant could build this New Mitchell within 20 per cent of our cost.

### 26 Extras—Free

The results show in the car. It is the most complete car that was ever built.

**\$1325 F. o. b.  
Racine**

For 5-Passenger Touring Car  
or 3-Passenger Roadster  
7-Passenger Touring Body, \$35 Extra

High-speed economical Six—48 horsepower—127-inch wheelbase. Complete equipment, including 26 extra features.

### Luxury in Extreme

This Mid-Year Mitchell embodies 73 new attractions. All the new touches are in it—all the luxuries and beauties which our experts found in 257 Show cars.

It has a 22-coat finish. It has French-finished upholstery. It has Bate cantilever springs. It has a power tire pump, a locked compartment, a light in the tonneau—scores of things you want.

Do yourself the justice of inspecting this car. We know you will say that Mr. Bate deserves the thanks of Motordom.

At the showroom you will see how great engineers regard him. You will find the proof that they regard this car a mechanical masterpiece. And it is, as you know, the most talked-about car of the time.

MITCHELL-LEWIS MOTOR CO.  
Racine, Wis., U. S. A.

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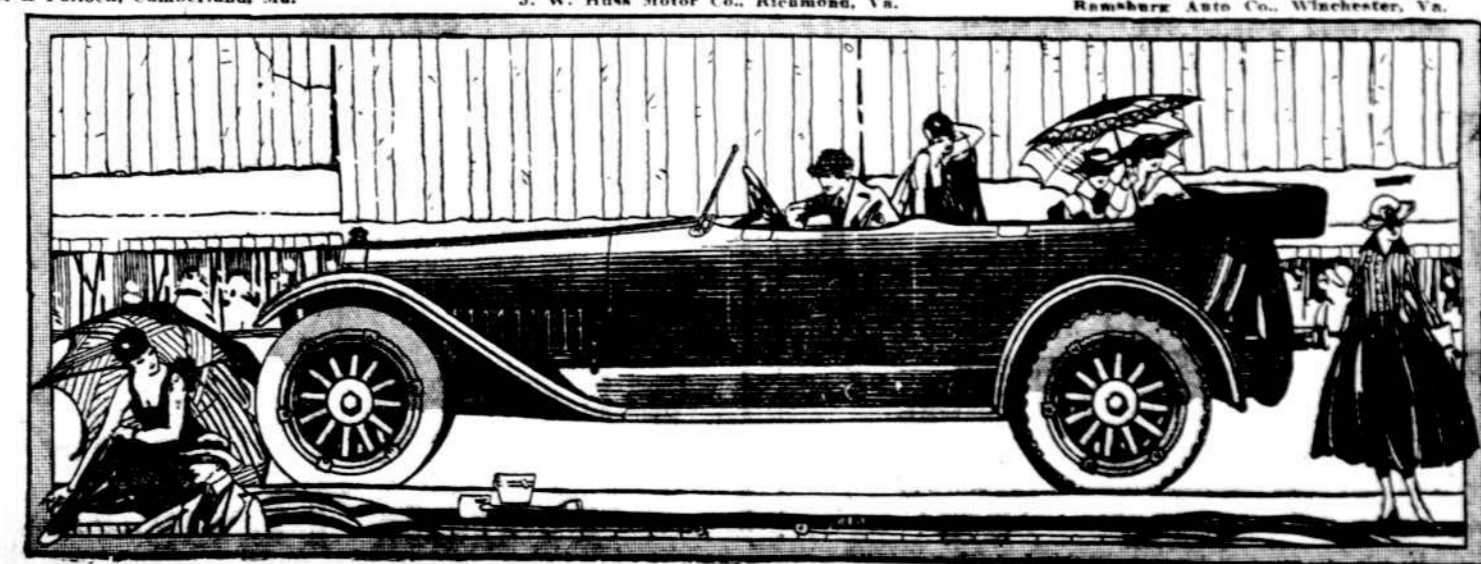
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H. W. Noel, Harrisonburg, Va.  
Ramsburg Auto Co., Winchester, Va.



We have established a branch in Washington, D. C., located at 1218 Connecticut Avenue northwest, for the sale at retail of Chevrolet quality motor cars.

Our direct representation at the National Capital began on June 1, and we are now quite "at home" to our many friends and to a host of others who, through the eminently satisfactory experience of Chevrolet ownership, will become firm friends.

We have a service arrangement which seems ideal—it is the manufacturer's service rendered directly to the owner.

Chevrolet quality cars are built in two chassis models, the "Four-Ninety," the little aristocrat of motordom, and the "Baby Grand," a large, powerful touring car.

## CHEVROLET MOTOR COMPANY

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